



RA12-70 (12V70Ah)

RA series is a general purpose battery with 10 years design life in float service. It meets with IEC, JIS and BS standards. With up-dated AGM valve regulated technology and high purity raw materials, the RA series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, medical equipment, emergency light and security system applications.



Specification

| | |
|--|---|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 70Ah@10hr-rate to 1.80V per cell @25°C |
| Weight | Approx. 22.5 Kg(Tolerance±2%) |
| Max. Discharge Current | 700A (5 sec) |
| Internal Resistance | Approx. 6 mΩ |
| Operating Temperature Range | Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C |
| Normal Operating Temperature Range | 25°C±5°C |
| Float charging Voltage | 13.6 to 13.8 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current Limit | 21A |
| Equalization and Cycle Service | 14.6 to 14.8 VDC/unit Average at 25°C |
| Self Discharge | RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using. |
| Terminal | Terminal F11/F5 |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional. |



MH28539



G4M20206-0910-E-16



CERTIFICATE

Postcode: 421001
is in conformity with
ISO 14001:2004 Standard

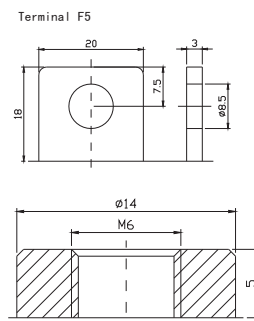
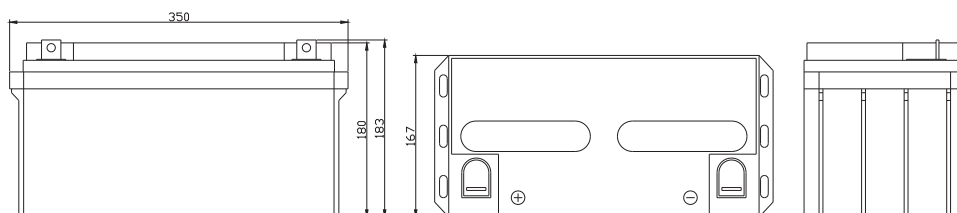


CERTIFICATE

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OHSAS 18001:1999 Standard

Dimensions

Unit: mm Dimension: 350(L)×167(W)×183(H)



Constant Current Discharge Characteristics: A (25°C)

| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| 9.60V | 245.1 | 180.5 | 134.6 | 70.33 | 43.69 | 26.98 | 18.33 | 14.78 | 12.27 | 8.08 | 7.28 | 3.86 |
| 10.0V | 238.0 | 171.7 | 131.9 | 69.43 | 43.11 | 26.43 | 17.99 | 14.57 | 12.16 | 8.05 | 7.21 | 3.78 |
| 10.2V | 231.0 | 165.6 | 129.8 | 68.37 | 42.70 | 26.15 | 17.83 | 14.43 | 12.08 | 7.98 | 7.14 | 3.71 |
| 10.5V | 207.4 | 152.8 | 123.6 | 66.48 | 42.18 | 25.81 | 17.67 | 14.21 | 11.98 | 7.91 | 7.07 | 3.64 |
| 10.8V | 187.2 | 139.4 | 113.9 | 64.29 | 41.59 | 25.60 | 17.47 | 13.73 | 11.92 | 7.87 | 7.01 | 3.60 |
| 11.1V | 159.8 | 124.6 | 102.2 | 61.84 | 40.60 | 24.57 | 17.13 | 13.53 | 11.84 | 7.81 | 6.92 | 3.46 |

Constant Power Discharge Characteristics: W(25°C)

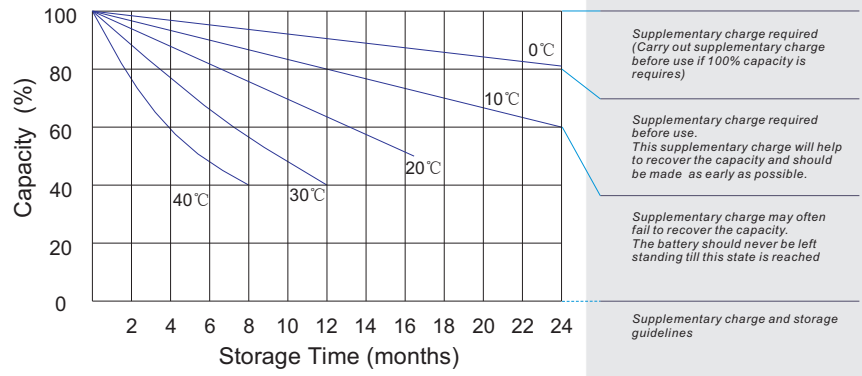
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 2586 | 1922 | 1468 | 805.1 | 506.3 | 316.1 | 215.8 | 176.9 | 147.0 | 96.8 | 87.35 | 46.45 |
| 10.0V | 2535 | 1863 | 1444 | 796.7 | 501.7 | 312.3 | 212.6 | 174.4 | 145.7 | 96.4 | 86.66 | 45.65 |
| 10.2V | 2506 | 1814 | 1428 | 789.8 | 498.7 | 310.0 | 211.7 | 172.8 | 144.8 | 95.7 | 85.89 | 44.80 |
| 10.5V | 2281 | 1689 | 1362 | 773.7 | 495.5 | 306.1 | 210.0 | 170.5 | 143.6 | 94.9 | 85.05 | 43.95 |
| 10.8V | 2078 | 1557 | 1259 | 755.4 | 489.2 | 303.8 | 207.6 | 164.7 | 143.0 | 94.5 | 84.21 | 43.53 |
| 11.1V | 1825 | 1408 | 1133 | 734.6 | 481.9 | 292.5 | 204.1 | 162.4 | 142.5 | 93.79 | 83.29 | 41.97 |

All mentioned values are average values(Tolerance±2%).

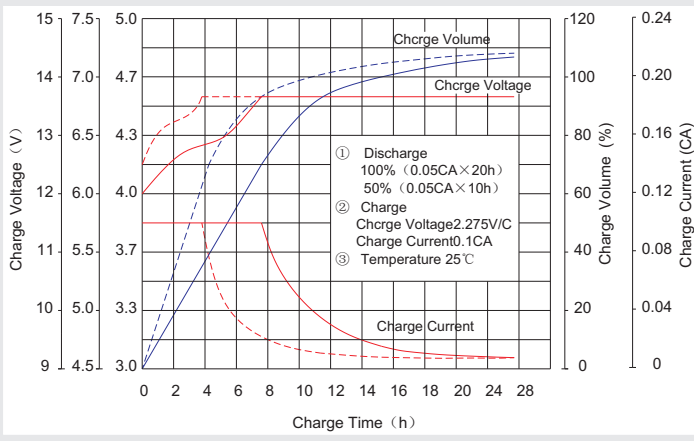
Effect of temperature on long term float life



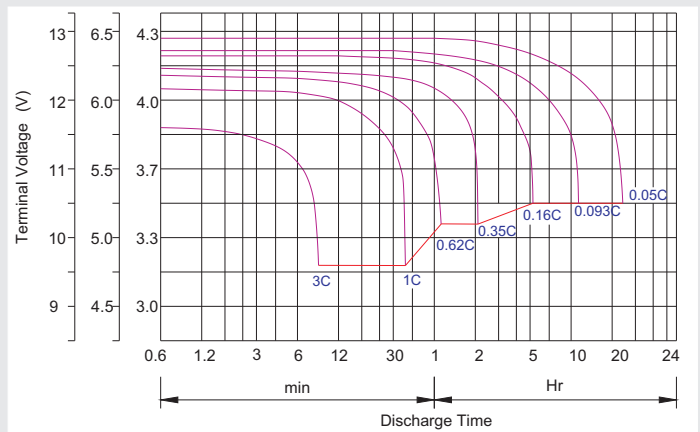
Storage characteristic



Charge characteristic Curve for standby use



Discharge characteristic Curve



Capacity Factors With Different Temperature

| Battery Type | | -20°C | -10°C | 0°C | 5°C | 10°C | 20°C | 25°C | 30°C | 40°C | 45°C |
|--------------|--------|-------|-------|-----|-----|------|------|------|------|------|------|
| GEL Battery | 6V&12V | 50% | 70% | 83% | 85% | 90% | 98% | 100% | 102% | 104% | 105% |
| | 2V | 60% | 75% | 85% | 88% | 92% | 99% | 100% | 103% | 105% | 106% |
| AGM Battery | 6V&12V | 46% | 66% | 76% | 83% | 90% | 98% | 100% | 103% | 107% | 109% |
| | 2V | 55% | 70% | 80% | 85% | 92% | 99% | 100% | 104% | 108% | 110% |

Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V/cell | 1.75V | 1.70V | 1.60V |
|--------------------------------|------------|-------------------|------------|
| Discharge Current (A) | (A) ≤ 0.2C | 0.2C < (A) < 1.0C | (A) ≥ 1.0C |

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

| | |
|------------------|--|
| Constant Voltage | -0.2Cx2h+2.4-2.45V/cellx24h, Max. Current 0.3C |
| Constant Current | -0.2Cx2h+0.1Cx12h |
| Fast | -0.2Cx2h+0.3Cx4h |

| | | | |
|----------|-----------------------|------------------|-----------------------|
| Bolt | M5 | M6 | M8 |
| Terminal | F3 F4 F13 F18 T25 T26 | F8 F11 F12-1 F15 | F5 F9 F10 F12 F14 F16 |
| Torque | 6~7N·m | 8~10N·m | 10~12N·m |

Maintenance & Cautions

Float Service:

- ✳ Every month, recommend inspection every battery voltage.
- ✳ Every three months, recommend equalization charge for one time.

Equalization charge method:

Discharge: 100% rate capacity discharge.

Charge: Max. current 0.3CA, constant voltage 2.4-2.45V/Cell charge 24h.

- ✳ Effect of temperature on float charge voltage: -3mV/°C/Cell.

- ✳ Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.